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THOMAS G. NEWMAN,

EDITOR AND PROPRIETOR.

The Standard Langstroth Frame.

Mr. M. M. Baldridge, St. Charles, Ill., sends us the following for publication in the BEE JOURNAL:

It has been shown on several occasions, by the very best of evidence, that the correct length, outside measure, of the "standard Langstroth frame," is 17⅜, and not 17⅝ inches. The evidence is the 3d revised edition of Mr. Langstroth's book; and, I will now add, *all subsequent editions of said book*. As an attempt has been made by some to show that Mr. L. has stated somewhere, in print, that the "standard Langstroth frame" is 17⅝ inches long, outside measure, I will at present simply deny the *truth* of such an assertion. And, while I am on this subject, I may as well also deny that Mr. L. has given, "in a prominent periodical," any *reasons* (?) for changing the outside length of the standard Langstroth frame from 17⅜ to 17⅝ inches. Now, if any one thinks otherwise, please come right along with the *proof*.

In an editorial note on page 272, we stated that "Mr. Langstroth had publicly given his sanction to the frame 17⅝ inches long." And, on page 251, Mr. Alves states that "Mr. Langstroth himself has approved the change to 17⅝ inches.

As these statements can be so easily *sustained*, and to save any labored arguments, we will here give the *proof:*

In the BEE JOURNAL for December, 1878, page 427, we published an article written by Mr. Baldridge on this subject, in which he says:

"The outside length of the [Langstroth] frame is 17⅜ inches, instead of 17⅝ inches, as given by Messrs. Newman and Root. This is an important mistake, as it destroys the interchangeableness of the frames."

Desiring to have Mr. Langstroth decide the point, we sent him an advanced proof sheet of the article, for his decision. His answer was unequivocal, and as follows:

"Mr. Baldridge is in error in supposing that such slight variations as he notices, destroy the interchangeableness of the frames. Considering the accuracy which may be obtained in making the frames stiff and perfectly square, *I prefer the measurements of Messrs. Newman and Root.*"

As before stated, we said "Mr. Langstroth has given his *sanction* to the frame 17⅝ inches long;" and Mr. Alves asserted that "Mr. L. had himself approved the change." If the quotation given does not "sanction" and "approve" the change, we do not know what language Mr. Langstroth could have used to have *approved* and *sanctioned* it!

Mr. Langstroth's attention was called to the change of ¼ inch in the length of his frame, from the figures given in his book, and he promptly endorsed the change, and wrote for publication in the AMERICAN BEE JOURNAL: "I prefer" it.

The arguments *against* the change, and Mr. Baldridge's assertion that it was "an important mistake," because "it destroys the interchangeableness of the frames," were also submitted to Mr. Langstroth, and he immediately wrote the reply for publication in the BEE JOURNAL (vol. 14, page 427), "Mr. Baldridge is in error!"

If this emphatic language of "the author of the book" and "inventor of the frame" does not settle the point—then it cannot be settled; and to further *discuss* the matter is but a *farce!*

The last edition of Mr. Langstroth's book (the fourth) was published about 25 years ago; since then, some have thought that a modification of ¼ of an inch in the length of his frame was to be desired, and Mr. L. has publicly endorsed that change. Now, therefore, to ignore this, his latest decision, made in the light of *the ever-living present*, and to persistently appeal to a book (be it one ever so valuable) a quarter of a century old, and therefore, "behind the times," not even hinting at many of the grandest inventions and improvements inaugurated during the past 25 years, is *unprogressive!* Such a course is something akin to that of going back to the "dark ages of the past," to define the courses and size of the planets, while ignoring the discoveries of more recent astromomers, made in the light of the *present* progressive age!

Salt for the Apiary.

The *Grange Bulletin* has the following advice about the generous use of salt in the apiary:

Use salt freely about your hives. Sprinkle a little water with plenty of salt outside, and in the hives, when the bees are troubled with ants. Good salty brine is of much value in destroying moth eggs about hives. Rock salt is good to make brine of, to prevent foul brood, which sometimes destroy whole apiaries, and is to be much dreaded by the apiarist. It is better to use an ounce of preventive than a pound of cure. Use small troughs for the brine.

Backwardness.—Complaints are now quite numerous about persons not receiving hives, sections and queens after ordering them of many of our most reliable dealers and breeders. The *backward* spring weather has prevented queen rearing, and is a sufficient excuse for not receiving queens. And the *backwardness* of bee-keepers in not ordering hives and sections earlier, is the cause of much inconvenience to them and others. Many rush in orders for such at the same time (some even by telegraph), till the capacity of all supply dealers is exceeded. This should teach a valuable lesson for another season—to get such things early—in time to prevent the possibility of waiting for them.

Bees, Fruit and Flowers in Virginia.

In the Winchester, Va., *Times*, we notice the following concerning Virginia's bee-master, Mr. E. C. Jordan:

"We have received some very fine strawberries from Mr. E. C. Jordan, the proprietor of Jordan's White Sulphur Springs. He regrets that his mammoth variety is not yet ripe, but if they are any larger than the fine ones he sent us, strawberries can no longer be classed among the small fruits. 'In the course of a few days,' he writes us, 'we will have them by the bushel. Come out and see us, our bees, flowers, and strawberries.' Thank you, sir, 'if we know ourselves, and we think we do,' we will be there to see the place so well-known for its beauty, and to partake of its equally famous hospitality."

The editor of the BEE JOURNAL would be delighted to spend a short time at the "White Sulphur Springs," this summer, for recreation, but we fear he cannot be spared from his "desk" and everlasting round of duties. Nothing would give him greater pleasure than to accept of Mr. Jordan's many pressing invitations to spend some time among the

Bees and berries,
Plums and cherries;
Birds and bowers,
Fragrant flowers;
In the sunny,
Vale of honey;
With birds that sing,
At Sulphur Spring—
In "Old Virginny!"

When we we retire from the tripod, Mr. Jordan may expect us to settle down in that locality—to enjoy "old age" with the birds, bees and flowers of the sunny South—that is the height of our ambition.

Humble-Bees and the Clover.

Prof. C. H. Fernald has written the following article for the Maine *Farmer* on the "Humble or Bumble-bees, their habits and uses," which will be of much interest to many of our readers. The fertilization of flowers, both by these bees as well as by the *Apis Melifica*, or honey bees, and other insects, is a subject of considerable interest to farmers as well as to bee-keepers. Prof. Fernald remarks as follows:

"The Humble-bees, or Bumble-bees as they are sometimes called, are among the largest and most showy of our Maine Hpmenoptera, and are extremely useful to the farmers for the work they do in cross fertilizing red clover. It is well know that the flower tube of this plant is so long that few insects have a sufficient length of tongue to reach the nectar in the nectary, and, therefore, it is not often frequented by honey bees and other nectar-loving Hymenopterous insects. We are, therefore, greatly indebted to the Humble-bees, for their visits to the clover, their great hairy bodies become more or less powdered with the pollen, and when they visit other clover heads their flowers are fertilized by the pollen which the Humble-bees have brought from the flowers previously visited.

It has been claimed, and without doubt correctly, that unless cross fertilization is effected in some way, the clover will run out. Darwin covered 100 flower heads of red clover with a net to keep the insects from them, and not a single seed was developed, but from 100 heads on plants growing outside, which were visited by bees, there were obtained 2,720 seeds. Experiments, of a similar character have been repeatedly performed both in Europe and in this country, and with like results. In all my observations I have scarcely ever seen any other insects visiting red clover than Humble-bees.

These insects are pretty generally distributed over the world, being found in both North and South America, in Europe, Asia and Africa, but not in Australia and New Zealand. It is in northern latitudes that they thrive best, and they even occur in the most northern regions to which man has penetrated.

In Australia there are no native insects adapted to the cross fertilization of red clover, and it has been attempted to introduce Humble-bees into that country for this purpose, but with what results I have not yet learned.

There are four different kinds in a colony of Humble-bees, the large females or queens, the small females, the workers and the males. Only the queen lives over the winter, and she hibernates either in the nest or under fallen leaves, or in some protected place. When the warm days of spring come, these large females, or queens, may be seen flying from place to place, crawling in and out of places, around and under stumps and stones, hunting for some place in which to make their nests.

When one of these queens finds a suitable place, as a deserted nest of a field mouse, or some hole under a stone or stump, she at once collects a small amount of pollen, which she mixes with honey, making a more or less sticky mass which she sticks into the pollen basket on the outside of the hind leg, and in which it is carried to the nest. As soon as a small mass of this food is collected, the queen deposits several eggs in it without order, and without even constructing any cells, but she continues the work of collecting pollen and laying eggs until the first brood emerges. As soon as the eggs hatch, the young begin to eat of the mass of food which surrounds them, thus enlarging their cavity gradually until thay reach their full growth as larvæ, when they spin a silken wall around themselves, lining the cavity which they have excavated in the pollen mass. The old bees close up these cells with a thin layer of wax, and the young transform into pupae, and in due time change into the perfect stage and cut their way out, when they are ready to assume their duties as workers, small females, males, or queens, according to their individual formation.

In the spring and early summer, only the large females are to be seen abroad on the wing, but the first brood consisting of workers only, as soon as they emerge, at once take upon themselves the work of the nests and the collecting of pollen and honey, while the queens remain in the nests. After this time, only small bees are to be seen visiting the flowers, and these are the workers.

As the queen continues prolific, more workers are added, and the nest is rapidly enlarged. About midsummer, eggs are laid which produce both small females and males. It is supposed that they pair near the end of the season, and as a result, these small females lay eggs from which the queens are developed. It has been proved that all the eggs laid after the first of September, produce the large females or queens, and as the males are still in the nest, the queens are impregnated in the air after the manner of the honey bee. On the approach of cold weather all the Humble-bees die except the queens, of which there are now several in each nest. These queens hibernate during the winter, and in spring they revive to repeat another cycle as described.

Twelve different species of Humble bees belonging to the genus *Bombus*, are known to inhabit New England, and of these I have taken five in Orono.

I am not aware that these insects are in any way injurious, but from the above showing they are of immense value in cross fertilizing plants, and should be protected. Mowing machines and horse rakes destroy their nests when run through them, but this should be avoided when possible.

It is true that they sting upon severe provocation, as when one attempts to destroy their nests, but who wouldn't fight for their own homes and firesides?

Nameless.—It is surprising that any one should be so careless as to forget to give their name when sending money in a letter. We have a bundle of such letters in this office (each one contains money for books or Journals), and, as they have no name signed, it is impossible to fill the orders or communicate with the writers. When we have some clue, either by post mark or post office address given, we usually find out by writing there either to some subscriber, or to the post master—but with these in this bundle we have no clue, and must wait until the writers shall give us their names and addresses. To all we would say—be careful to sign your names, and give your Post-Office, County and State.

Bees in Africa and the Kafirs.

The bees of Africa, especially of the Southern portion, near the Cape of Good Hope, are as much more vicious than the Cyprian bees, as the Cyprians are crosser than the Italians, if we may credit the testimony of a correspondent of the *London Nature*, who relates the experience of himself and his two servants (one a Kafir and the other a colored Malay), which he describes as follows:

I keep two apiaries at a considerable distance from each other, to one of which my gardner, a colored Malay, attends, and to the other a Kafir laborer. At first they were generally stung when passing too near the entrance of a hive, but now they pass and repass with impunity. They work with the bees more frequently than I do, and yet when either of them assists me in his own apiary, he receives more stings than I do. This I ascribe to the gardner's using snuff in his mouth very freely, and to the Kafir's very pronounced odor.

To test the recognition of the bees, I once requested the Malay and the Kafir to change clothes with each other, and wear thick veils over their heads and faces. They did so, and assisted me first in the apiaries to which they were respectively in the habit of attending, with the result that they received no stings, but when either began to work with the bees in the apiary he usually did not attend to, he was so stung about the hands that he had to beat a hasty retreat, while I remained uninjured, although not veiled. The two men are almost of the same size and build, so that if the bees had any power of general recognition, they would probably (as some of the other servants did) have mistaken the one for the other. I can, therefore, only account for the conduct of the bees by the unpleasant, and to them strange, odor. At my request the gardner discontinued the use of snuff in his mouth for some time, and during that time he was not stung more than I was, while working with the bees; but if the Kafir stands before the entrance of an unaccustomed hive, he is remorselessly stung.

I may add that Cape bees are very much more vicious than European ones seem to be, and that, if not skillfully handled, they will unmercifully sting their most familiar friends. On one occasion, a bunch of carrots was left near the gardner's apiary, which so enraged the bees that they stung him and everyone else they came across, and very nearly stung a cow to death at a distance of about a hundred yards from the apiary; and on another occasion a horse, still wet with sweat, trespassed too near a hive, with the result that the whole apiary was in uproar, and some of my children and servants were stung, the chief victim being a Malay girl, who used to apply quantities of scented pomatum to her hair, and who was severely stung on the head.

Mr. Romanes continues his narration thus:

"Again, many instances might be quoted, such as that given by Gueringius, who allowed a species of wasp, native to Natal, to build in the doorposts of his house, and who observed that, although he often interfered with the nest, he was only once stung, and this by a young wasp; while no Kafir could venture to approach the door, much less pass through it."

It does not appear whether any white stranger was ever stung, and the only inference that could be reasonably drawn from the conduct of the wasps, is, that they disliked the odor of Kafirs, which, as is well-known, is peculiarly disagreeable. If a particular Kafir had been in the habit of passing through the door, the wasps would probably have become accustomed to his scent, in the same way as a colony of bees, upon the testimony of Sir John Lubbock, became accustomed to the scent of eau-de-cologne repeatedly dropped at the entrance of their hive.

Keep the Bees at Work.

There is at present every indication that the honey harvest this year will be very large. Honey-producing plants, trees and shrubs are full of liquid sweetness, and with fair weather the crop will be an exceedingly large one. Mrs. L. Harrison in the *Prairie Farmer* remarks as follows on this and other important subjects:

No one can now tell what the harvest will be, but there is a great growth of white clover, and if the clerk of nature's laboratory works in our favor, we shall secure an abundant harvest, for the workers are many and the fields white. But the watchmen must be faithful and see that every tenant pays his rent; no "loafing" must be allowed, and "hanging out" stopped instanter. Some bees will wax fat, and loaf for weeks, getting ready to swarm, if allowed to do so. There is no need of waxing fat, when they are to be supplied with foundation for their combs.

There should at all times be plenty of surplus room, not too much, but enough to accommodate all the bees. Sometimes bees hang out because there is too little ventilation, or they are too warm. They should be cooled by shading, given more air and surplus room. If all these fail, smoke them in, and if they cluster out again, pour honey on them, stir them up with a spoon, and then run for life, for they will be on the rampage. As a last resort, prepare a hive with frames of comb or foundation, and lift off the surplus boxes on to it, remove the hive and place the prepared hive where the old one stood. All the bees returning from the fields enter this, and the bees on the combs brushed in front of this, together with the queen. The combs of honey and brood can be given to small colonies.

Honey and Beeswax Market.

OFFICE OF AMERICAN BEE JOURNAL,
Monday, 10 a. m., June 18, 1882.

The following are the latest quotations for honey and beeswax received up to this hour:

Quotations of Cash Buyers.

CHICAGO.

HONEY—The nominal price of extracted is 7c. for dark and 9c. for light—here. The supply is abundant and sales are slow.
BEESWAX—None in the market.
AL. H. NEWMAN, 923 W. Madison St.

CINCINNATI.

HONEY.—The market for extracted honey is lively, and the demand exceeds the arrivals. Our stock is small and we are in danger of having sold out every day. We pay 7@10c. for good honey on arrival, the latter price for choice clover. There is a small demand for comb honey, and prices nominal.
BEESWAX.—Arrivals of beeswax are plentiful. We pay 35c. for a good article on arrival.
CHAS. F. MUTH.

Quotations of Commission Merchants.

NEW YORK.

HONEY.—Best clover in 1-lb. sections (no glass) 22@23c.; in 2-lb. sections (glassed) 18@20c. Fair quality, 1 and 2-lb. sections, 17@18c. Extracted, white, in small barrels, 10@11½c.; buckwheat, 8@9c.
BEESWAX.—Is more plentiful. Prime yellow sells at 37½@38½c.
H. K. & F. B. THURBER & CO.

CHICAGO.

HONEY.—Prices declining. Holders are anxious to sell, and the prices vary very much.
BEESWAX—35@36c.
R. A. BURNETT, 161 South Water St.

SAN FRANCISCO.

HONEY—Stocks and the demand are both light. More or less difficulty would be experienced in filling a large order for a straight lot.
White comb, 14@17c.; dark to good, 11@13c.; extracted, choice to extra white, 8½@9½c.; dark and candied, 5@7½c.
BEESWAX—Wholesale, 27@28c.
STEARNS & SMITH, 423 Front Street.

ST. LOUIS.

HONEY.—Strained salable at 7@7½c; comb sold in a jobbing way only—old 10@14c, and new 15c.
BEESWAX.—Sold mainly at 33@34c—latter for prime.
W. T. ANDERSON & CO., 117 N. Main Street.

CLEVELAND.

HONEY.—There is a moderate sale for best white 1-lb. sections at 18c, occasionally 19c, but 2 lbs. are not called for. Extracted is no sale at all.
BEESWAX—Not offering.
A. C. KENDEL, 115 Ontario Street.

BOSTON.

HONEY—Our market is fairly active. We quote: ½ lb. sections at 30c.; 1 lb. sections, 22@25c.; 2 lb. sections, 20@22c. Extracted, 10c. per lb. Good lots of extracted are wanted in kegs or barrels.
BEESWAX—Our supply is gone; we have none to quote.
CROCKER & BLAKE, 57 Chatham Street.

☞ When writing to this office on business, our correspondents should not write anything for publication on the same sheet of paper, unless it can be torn apart without interfering with either portion of the letter. The editorial and business departments are separate and distinct, and when the business is mixed up with items for publication it often causes confusion. They may both be sent in one envelope but on separate pieces of paper.

Advertisements intended for the BEE JOURNAL must reach this office by Saturday of the previous week.

For the American Bee Journal.

At What Age Do Bees Gather Honey?

G. M. DOOLITTLE.

The above heading may be thought by some to be of little interest, but as it has much to do with the surplus honey we get, I thought a few words on the subject would not be amiss. Many seem to suppose that the bee is capable of going to the fields to gather honey as soon as hatched, or in three or four days at least, but some facts prove that they do not do so. Bees may be forced to go to the fields for pollen and honey at the age of 5 or 6 days old, but when the colony is in a normal condition, as it always should be to store honey to the best advantage, the bee is 16 days old before it gathers honey. If we take combs of bees just hatching, and place them in a hive without any bees, as is frequently done to introduce a valuable queen, we will see young bees not over 5 or 6 days old go to the fields, being compelled to do so for water, pollen, etc., because there is none of older age to go; but this does not prove that bees of that age usually do so any more than the experiment of feeding 20 pounds of honey to bees confined to the hive before one pound of wax was produced, proves that it always takes 20 pounds of honey to produce one pound of comb. I have conducted two experiments since I kept bees, to ascertain the age at which bees gather the first honey, and as each proved the same, I believe 16 days to be the time when the bee brings her first load of honey, when the colony is in a normal condition.

The experiment which I tried was this: A black queen was removed from a colony, and an Italian queen introduced in her place about the middle of June. The date was marked on the hive, and as the 21st day thereafter arrived, a careful watch was kept to see when the first Italian bee hatched. When the first Italian had emerged from the cell, a careful watch was again kept of the hive to see when the first Italian took its flight. This happened about 2 p. m., on the eighth day after the first Italian was found hatched, when a few came out for a play spell, but in an hour all had returned, and none but black bees were seen going to and from the hive. As the days passed on the numbers increased at each play spell (about 2 o'clock), but none having the Italian markings were seen, except at these play spells, till the 16th day after the first Italian hatched. At this time a few came in with pollen and honey, commencing to work at about 10 a. m. After this, the number of Italian honey gatherers increased while the number of blacks decreased, until on the 45th day after the last black bee was hatched, when not a black bee was to be found in or about the hive. If the above is correct, and I believe it is, it will be seen that the eggs, for our honey gatherers, must be laid by the queen 37 days before our main honey harvest, if we would get the best results from our bees; as it takes 21 days from the time the egg is laid to the time the bee emerges from the cell, and this added to the 16 makes the 37 days. The above is applicable to any portion of the country, where a certain flora produces the larger portion of the honey crop. To be sure, the bees from the time they are three days old, help to perform the labors in the hive, such as building comb, feeding the larvæ, evaporating nectar, etc., hence are of much value toward securing the crop of honey, if we have plenty of bees besides, over 16 days old, but otherwise all hatching after the middle of the honey harvest are of little use.

Another thing I ascertained by these experiments, which was that the bees which gather the honey are not the ones which deposit it in the cells. I was reading in a bee paper, not long ago, how the loaded bees from the field carried their honey easily to the top of a four story hive. This was used as an argument in favor of placing the empty combs on top of the full ones, instead of raising up the second or third story and placing them between full combs, on the tiering up plan. As far as the loaded bees are concerned, it makes no difference, as will be seen when I state that on the 15th day after the first Italian hatched, when none but black bees were going in and out at the entrance, I found by taking off the cover and examining the sections, that scarce a black bee was in them, but all were Italians, which were at work there, building comb and depositing honey. After this I used an observatory hive containing but one comb. In this I also had black bees as field bees, and young Italians for the inside work. By watching the entrance through the glass, I could see the loaded bees come in, and when one came on the side next to me, I could easily see what it did with the load of honey. The bee would pass along on the comb till it came to a young bee, when it would put out its tongue toward the young bee. If this bee had no load, it would take the honey, but if it had, our field bee must try again till one was found that could take the load, when it was given up to it. The field bee then rested a little while, when it would go for another load. Thus it will be seen that any entrance leading direct to the surplus arrangement, as was formerly made in the Langstroth hive, is of no use, but, on the contrary, a positive damage, as in cool nights it causes the bees to leave the boxes, from allowing too much cold air to enter them. To secure the best results, it is necessary to be fully acquainted with all of these minor points of interest about the bees, so that we may combine them all, and bring them all to bear on that which will produce us the most honey.

Borodino, N. Y.

Country Gentleman.

Using a Standard Frame.

W. Z. HUTCHINSON.

One can now scarcely pick up a bee paper without finding an article with the above heading, and, although all the writers do not agree as to which frame should be taken as the standard, they do agree as to the desirability of all bee-keepers using a frame of the same size. The traffic in bees is becoming quite large, and with so many different-sized frames as there are now in use, the purchaser of bees frequently not only has to perform the disagreeable tast of transferring them, in order that they may be in hives like his own, but the discarded hives and frames are seldom of any value, except for kindling wood. Were some frame adopted as the standard, and used by all bee-keepers, the supply business would be greatly simplified and made more profitable, both to the manufacturers and the consumers. Hives, frames, etc., could be manufactured in large quantities, and, at a corresponding lower price, and the delays caused by having to wait while some odd sizes are being manufactured, would be entirely avoided. Experiments, especially those in regard to wintering bees, would be more conclusive and satisfactory, were all frames of the same size, as success or failure could not be attributed to the difference in the size or shape of the frames used.

As the majority of bee-keepers use the Langstroth frame, it is not to be wondered at, that nearly all writers upon this subject, advocate the adoption of the Langstroth frame as the standard. I have always used the American frame, which is about 12 inches square, and I have nearly 100 hives, yet I shall, this season, commence using the Langstroth frame, and another season shall discard the American frame entirely. If I cannot sell the hives and combs to some one who uses that style of hives, I shall transfer the best of the combs, melt the remainder into beeswax, and have the wax manufactured into comb foundation. I will knock the hives to pieces, and use what I can in making Langstroth hives. Heretofore I have reared queens and extracted honey, and for these purposes I regard the American frame as good as any. Now, I shall give the production of comb honey a trial, and, for this business, I am convinced that a shallow frame is preferrable. Since the Langstroth is a shallow frame, and is used by a majority of bee-keepers, I shall adopt it.

It has been many times asserted that the Langstroth frame is too shallow for wintering bees successfully in our cold, northern climate. It is asserted that in order to pass the winter safely, bees should cluster beneath their stores—as the heat arising from the cluster keeps the honey warm and in proper condition to be used. It should be remembered that when the warm air arising from a cluster of bees strikes against the covering over the frames, the heat spreads out in a

lateral direction all over the upper portion of the hive, and that bees in search of food, in cold weather, move in a lateral direction between the combs just as readily as they do in an upward direction, and much more readily between combs than they will pass from comb to comb. If any one thinks differently, let him, near the close of the honey season, raise the back end of his Langstroth hive until the hive stands at an angle of 65°, when by the time that cold weather comes, the bees will practically be in a tall hive with their stores above them. Two years ago, just after the close of a very disastrous winter for bees, the editor of the AMERICAN BEE JOURNAL requested his readers to send in reports of how their bees were prepared for winter—whether they were wintered in the cellars, or out-of-doors; the kind of hives used, etc.,—and how the bees wintered. From these reports a statistical table was prepared, and one of the facts brought out, was that bees wintered with the least loss in Langstroth hives. Among other remarks the editor made the following:

"Those who have contended that that the Langstroth hive is too shallow for wintering, will be surprised to learn that the figures compare very favorably for it. Thus the percentage of losses in all kinds of frame hives is 46; exclusive of the Langstroth hive it is 51, leaving only 43 for the Langstroth, being 8 per cent. in its favor. Again, this report records the results of wintering in 521,330 hives; 211,732 of which were in box hives, leaving 309,598 for all kinds of frame hives. Of the latter, 195,957 are Langstroth—*i. e.*, shallow frames—and 113,561 of all others combined. We really think these figures settle the matter of 'the coming frame.' Had the deep frames been shown to have the advantage, the BEE JOURNAL would have been ready to advocate their universal adoption, for it has no desire to favor any but the most successful methods, hives or implements."

The reason that a shallow frame is better adapted to the production of comb honey, is that the capacity for top-storing is so increased, that the troublesome and vexatious side-storing is avoided, and the honey boxes are brought near the center of the brood nest, which induces the bees to enter more readily. Now, as a shallow frame is best for obtaining comb honey, and equally as good as any for extracted honey, and, as the Langstroth is a shallow frame, and is certainly as good a frame as any upon which to winter bees, and is now largely in the majority, I shall adopt it and do all that I can towards making it the standard frame.

There is some dispute as to the exact dimensions of the Langstroth frame, but the majority of the frames in use are 9⅛ inches deep and 17⅝ inches long. The largest manufacturers of hives, and the greatest number of them, have adopted this size, as have the editors of all of the principal bee periodicals. In Mr. Langstroth's book published 20 years ago, the length of the frames was given as 17⅜ instead of 17⅝, but the introduction, several years ago, of the one-pound section, which is 4¼x4¼ inches square, eight of which just fill a Langstroth frame when made 17⅝ inches in length, outside measurement, is a good reason for making them of that length, and Mr. Langstroth, long ago, publicly indorsed the change to 17⅝.

Rogersville, Mich.

For the American Bee Journal.

Size of Frame—Bees for Business.

JAMES HEDDON.

In reply to Mr. Alves, let me say:

1. The large majority of frame hives used in this country *are* "made" by the users.

2. Mr. Langstroth has never, to my knowledge, pronounced 17⅝ the standard, and if his fiat will make a standard at any time, I will write to him and possibly induce him to call it 17⅛x9⅛.

3. I did not object to the mongrel being well adapted to taking the one-pound sections. I only objected to that fact being used as an argument in its favor, asserting that the true standard size 17⅜ would do the same, and that the two-story broad frame system was fast falling into disrepute.

4. I maintain that when a man lays down a system in a book, and gives dimensions of all the parts of his hive connected with that system, together with good and valid reasons for such measurements, spreads that book far and wide, which results in thousands copying after his directions, that such established standard is not to be altered by wrenching from him his assent to a fractional change that can serve no purpose for the better, only annoying bee-keepers with the disastrous results of odd sizes of hives and frames.

5. What Mr. L. says on page 331, has reference solely to principles within the realm of the adaptability of the hive to the instincts of the bees, and *not* to the convenience of bee masters. I am not willing to cover the fame of this greatest of apicultural inventors with the veil of ignorance that would be thrown over him to suppose that he saw no inconvenience in the size of 40 and 9 different forms and sizes of hives and frames. He wished to impress the minds of the ignorant, that his inventions and patents did cover frames of various sizes.

6. I am in the habit of calling things by their right names, and will call the 17⅜ Langstroth the "obsolete" Langstroth frame when it becomes so. Please do not count the chickens until the eggs hatch.

On one point Mr. Alves and I agree, and that is that we both fail to see that he makes his case any stronger than he did in his first attempt. I thank Mr. A. for his enlogestic words in his closing paragraph, and hope my views on this subject may in the end serve to strengthen his former good opinions.

QUALITIES IN BEES.

In reply to the published questions of Mr. Hutchinson, I little thought of arousing my old antagonist, Mr. Demaree. It seems to me that Mr. D., in his article on page 284, merely repeats the arguments of his former article. This effort strikes the ear like a wail from the tomb of Guiteau: "Not guilty."

Bee-keepers are turning attention to the new system of breeding bees for their qualities, regardless of color or the number of their rings. Mr. Hutchinson sees the point; Mr. Alley says, "that's so;" neighbor Shirley, a breeder of close observation, feels almost out of patience with me that I should have erroneously inferred that he places any special value upon "the gold rings;" he says that he "has been through the mill," and is a firm believer in bees for business; qualities which are not necessarily inseparable from any special number of bands. Such old and excellent breeders as E. A. Thomas, are advertising a strain tested for qualities; and my orders for hybrid queens bid fair to go beyond my ability to supply. And right or wrong, the decision of bee-keepers of to-day is, "Give us bees tested for qualities." It is no wonder that Mr. Demaree considers it high time to "protest against the present tendency" of breeding for qualities, viewing the matter as he does.

I hardly thought after the late editorial scolding, that Mr. D. would again try to blacken the character of those who honestly differ from him, by using such a term as "mercenary tendency." Such statements, as well as the whole article, seem to me entirely uncalled for; and as before stated, I had no idea of again calling out the unchangeable opinions of Mr. Demaree.

> "I had supposed the shattered string
> Would prove, by now, a silent thing;
> But touch it lightly as ye will,
> It gives a mournful echo, still."

Now, let us look at the mistakes in Mr. D.'s argument. The mule argument, to begin with. Let me quote from that comic philosopher, Josh Billings. He says: "The mule is half horse and half donkey, and then comes a full stop; nature evidently having discovered her mistake." Again, "I have known the mule to behave first rate all the week for the sake of getting a good fair crack at the driver Saturday night." Again, "The best way to make a mule stay in pasture, is to turn him into an adjoining lot, and let him jump out." This animal ranks as he does because of his unchangeableness. Let us have no mule bees.

I take it that Mr. Demaree, in his experience with hybrids, has never gone beyond the first cross, or if so, merely in a hap-hazard way. The after-crosses judiciously directed by a skilled master, is where we develop as well as retain many superior traits of the character of both races, at the same time doing away with vicious qualities. Three of my present students are bee-keepers of some years experience with Italians. I propose they be consulted upon the points

just referred to, as found in my apiary.

Mr. Demaree believes that every honorable breeder should be able to give a description sufficiently comprehensive to enable any one to identify his bees, and distinguish them from every race or strain of bees. Mr. D. uses the word "strain," can he, roaming the fields, distinguish bees from his apiary, from those of other strains of the same race? I can do this with mine.

Mr. D. thinks I should give a description of my bees. I did so, and it was so plainly given, and so well defined a description that he held it up to ridicule, and sought to make fun of the terms "long-bodied," and "leather-colored;" forms and colors well known to modern bee-keepers. Now he has the audacity to come forward with bees of "plumage," "white silver bands;" "slender in form," and "second-band conspicuously broad," and "generally wearing but little plumage," but that little of a "light silver rather than a golden hue." "Form slender, inclining towards orange banded." Why, if we had not known that Mr. D. was a lawyer, and were we inclined to look upon every new and novel movement as a "mercenary" dodge, I should be induced to believe that Mr. Demaree was about to advertise "Queens for Sale!"

The Legislature of Kentucky is now working on conservative ground. Kentucky always did think that her stock had reached the end of perfection; and consistent with that view, demands "purity of her stock." But will Kentucky and its able lawyer please to remember that their shorthorns and blooded horses were not handed down to us from on high, but were produced by the efforts of some one who said: "Let us have better horses and better cows; let us cross this one with that one; let us breed for qualities." Some Legislatures allowed men to bring forth the setter from the spaniel, the pointer from the setter and hound. This was not the Legislature of Kentucky.

Nature has done for the mule what Kentucky would do for all stock, and the mule stands in the stock world just where Kentucky will in the apicultural world, if she passes any such laws regarding bee-breeding, as Mr. D. alludes to in his "aforesaid" article.

Dowagiac, Mich., June 8, 1883.

[As both disputants have now had another "round," let the subject rest. Neither party can be convinced, and no good *can* come of a mere wordy war; so "give us a rest."—ED.]

☞ The bee-keepers of Fulton and adjoining counties, are requested to meet at the Commercial House, in Astoria, Fulton, Co., Ill., on Saturday, June 30, at 2 p. m., for the purpose of organizing the Fulton County Bee-Keepers Association. By order,

COMMITTEE.

Rural New Yorker.

Queen-Rearing—A Review.

PROF. A. J. COOK.

For some time it has been known that this work was in process of preparation, and from the long and successful experience of the author as a queen breeder—an experience covering more than a score of years—the work has been eagerly looked for by all those engaged in breeding bees. Nor will its study disappoint these ardent expectations. The following is only a brief synopsis of some of the most noteworthy points:

Mr. Alley believes that the same rules of breeding apply in the rearing of bees that should govern in higher animals. Thus he urges stoutly the most careful selection of the queen and drones. He keeps his selected queen in a small hive, so that he can get eggs at once upon adding a frame of bright empty comb. Combs that have contained one or two broods are to be preferred.

The queen-cells should only be formed in very strong colonies. Such are drummed from their hives and kept queenless in an empty hive, in a cellar for ten hours. This fits them better, as Mr. A. thinks, for feeding the queens. To procure queen cells, Mr. Alley cuts the strips of comb which are filled with eggs, so narrow as to contain only one row of entire cells and two rows of half cells each. On one side, the eggs in each alternate cell of the row of uncut cells are destroyed by the use of a common match. By dipping the opposite face of this strip into melted wax and resin mixed, the comb is fastened to a frame of comb and given to the bees, which have been ten hours queenless. No other brood is given them that is uncapped, and so they form beautiful cells, in a regular row, equally spaced, and as the eggs were all laid at a known date, it is known precisely just when the queens will come forth. He never permits more than ten cells to be formed in a single colony. The bees are made queenless in the morning and given the eggs at night. Mr. A., in letting the bees escape from the hive where they have been shut in, to enter the new hive where the queen cells are to be formed, which now rests on the old stand, prevents the drones from leaving, if they are undesirable, and so gets rid of the inferior drones. If the bees cannot gather, they are fed one pint of syrup or honey twice a day. The cells are cut out on the eighth day from hatching, or the eleventh from the laying of the egg. The cells are put into a queen-nursery like that described years ago by Dr. Jewell Davis. A single colony can care for 100 of such cells. A colony is kept purposely for it.

Mr. Alley condemns the lamp nursery, though he confesses he never used it. He says it is unnatural. The same argument would condemn his whole method. He has improved upon nature. Some of our best queen breeders, like Viallon, Hutchinson and Hayhurst, use the lamp nursery and think it excellent. He says if we feed young queens in a queen nursery, they will remain there safely several weeks. But what of Berlepsch's theory that a queen unmated for three weeks is ruined?

Mr. Alley introduces the queens as virgins. But the old colony or nucleus must have been queenless three days. He uses tobacco to smoke them, and thinks this is a *sine qua non*. He also advises dropping a virgin queen into honey and then into the hive. He sometimes introduces these virgins by use of a cage, stopping the entrance—a half inch hole an inch long—with the "Good candy." The bees eat the candy, liberate the queen and accept her.

Mr. Alley never uses a colony twice in succession to form cells. After they are used once, he gives them the uncapped brood and queen of another colony which is to be used, and considers them ready again in four weeks. Thus queens are always reared from eggs; few are reared in each colony; these have all the attention, and "are almost sure to be superior queens." The nucleus or colony receiving a virgin queen should not be near the colony which is forming cells at the time, or the young queen, as she returns from mating, will enter the hive and destroy all the cells. If a queen is "balled" as she returns from mating, it is a very sure sign of the presence of fertile workers.

Mr. Alley's instruction as to introducing virgin queens is very valuable, if the method will work in other hands. In this case the colony, or nucleus, must have been queenless three days. Not so with a cell. This he says (our experience hardly sustains him) may be introduced safely immediately upon the removal of the queen.

The cell need not be fastened in a comb, but held by slight pressure between two adjacent combs. Late queens will often fail to fly unless fed a little each day. Mr. Alley is surely right, in saying that queens mate only once. He thinks a queen is almost sure to be purely mated if there are no impure bees within half a mile. I wish we were sure of this.

Caged queens, Mr. Alley says, will not be so fed by the bees, and these must be fed in the cage. Judge Andrews, of Texas, says they will always be fed. Bees in a nucleus, unless fed, will frequently swarm out. Mr. Alley secures his selected drones in this wise: He places empty drone combs in the midst of the brood nest of his best colony. As soon as eggs are laid in the cells, he gives these combs to queenless colonies. Good queens lay regularly in cells, and cut the caps from the queen cells as they come forth smoothly, and do not leave a ragged edge. He makes the strange assertion, that Italians are not a distinct race, and, further, states that they are poor nurses. M. Alley quotes wrongly, I think, from our books. I think all advise getting eggs of a known date. It is stated that worker bees never destroy a queen cell. In handling queen cells, they must never be over-heated. They will stand cold better, but ought never to be chilled.

Mr. Alley thinks it is dangerous to ship a queen right from active laying—she may be ruined. It is much safer to cage her a few days first. Cheap queens are vehemently condemned.

Mr. Alley adds to the usual rules in respect to robbing, that we ought not to feed honey but syrup. The honey odor incites to robbing. It is stated that by giving a colony brood, and a queen cell, fertile workers may be disposed of. Mr. Alley advises, none too strongly, to displace impotent queens. He remarks as wisely that most queens become unprofitable after two years. I am also glad to see that the value of spring feeding, which I have so often demonstrated in our College apiary, is fully recognized. It is no exaggeration, I think, when he states that at least ten days are thus saved. The greatest error, I think, is made in reference to wintering. He favors out-door wintering; says we must have a double-walled hive, 25 pounds of honey and a February fight. But, how often we get no February flight. With a proper cellar we may keep the bees in the hives safely from Nov. 1 till April 1.

Mr. Alley thinks that although the laws of parthenogenesis are certainly true in respect to the production of drones; yet the fact that queens are pure, he thinks not a guaranty that their drone progeny will be. His only reason given is that it is not true of birds. From very close and long observation, I believe that it *is* true of bees.

Lansing, Mich.

For the American Bee Journal.

Honey from Corn—A Reply.

W. H. STEWART.

On page 85, Feb. 7, I find a criticism by the Rev. M. Mahin, D. D., on my article as published in the BEE JOURNAL of Jan. 24, 1883.

The science of bee-culture (if it may properly be called a science) is yet in its infancy, and its growth must be step by step, as new discoveries are made. No new discoveries, mean no development of truth. A statement supported by facts is scientific. A denial without proof is just the opposite. He who attempts to set up a negative case by mere denial, unsupported by proof, lands himself in inconsistency.

I do not hold that my work is exempt from trial at the bar of reason, observation and experience. Nay, I court criticism. It leads to investigation, and investigation evolves truth. The art of bee-culture is not confined within the walls of limitation. It has had a beginning, but it can have no ending.

> The sons of men that come and go,
> Each have a special work to do;
> These works just suited to their time
> And place, are steps by which we climb.
>
> One forward step; one higher stand,
> How wide, how vast the fields expand;
> Where sons of men may ply anew,
> Their hand and brain some work to do.

Criticism should be conducted seriously, having but one object in view, viz.: truth, but Mr. Mahin says that my work is too absurd to be treated seriously. Let us see. Do bees wound flowers? In A B C of Bee-Culture, page 168, Mr. Root tells us that he discovered how the bees got so covered with pollen while working on the wild touch-me-not, and on page 169 he says: "A year or two after this I took a friend of mine to the spot to show him my wonderful discovery, but lo! and behold! the sharp witted Italians had taken the short cut to the honey by biting through the spur and inserting their tongues without the laborious operation of crowding down into the flowers."

Mr. Mahin chides me for not giving proof that bees wound blossoms. Here is proof that bees are able, and that they did in this case, bite holes through the flower and got at the honey mechanically from the outside. In my article I stated that "if bees would have honey they must find where the plant had by accident or otherwise been wounded, or it must hunt out some tender point and inflict the wound as best it could." I do not hold that bees must, like men, chop holes in the trunks of maple trees to get the sap, but I do know that after men have thus set the sap leaking, the bees gather it. But in regard to bees hunting out some tender points to inflict the wound itself. The tenderest portion of the blossom is as much a portion of the plant as is the trunk.

Now, in regard to the corn honey, Mr. Mahin says that "corn honey is a myth." When I quoted Mr. Morris, in regard to corn honey, I did not give his statement verbatim, as it was lengthy. I will now give the statement of Mr. Morris from *Gleanings*, of December, 1882: "Sometime in August * * * when white clover was about played out, the bees took a spurt, and for several days we failed to find what they were working on; heartsease and goldenrod were not in bloom. My wife called my attention to it first. She had followed the line of bees, and found the corn field swarming with bees. At first you would suppose a swarm was going over, and wonder where they were. Stand still a moment, however, and you will see a bee come from under the base of a corn leaf, then one from between the stem of an ear and the stalk, then some from way down by the roots, and by that time you will begin to see where they are getting the honey, not from the silk, not from the blossom, but from the stalk, at the base of every leaf at each joint, and on every stalk, and on every hill. We obtained 500 pounds of extracted, same of box, of this same corn honey, and you will see by the sample it is nice. Bees worked on the corn about two weeks. Field corn begins to yield honey about as the kernel begins to form, and continues until the kernel is well formed. At least it did here this year.....I think it always yields honey, some every year, but you cannot always tell what is going to yield honey. H. M. MORRIS."

At the close of the above letter from Mr. Morris, Mr. A. I. Root remarks: "Many thanks friend M. for your valuable contribution to our stock of facts, and also for the sample of honey. The corn honey will rank with the best we have, both in color and flavor.....I would strongly indorse the point you make, friend M., about the honey coming from unexpected sources. We little know now where the honey we may get next season will come from, while the honey comes from so many hitherto unknown sources, and there is such a broad field of knowledge yet unexplored."

Mr. Morris says in the BEE JOURNAL, page 145: "Mr. Stewart quotes me from *Gleanings* a little wrong. I said: I think bees gather some honey each year from corn. His statement is that my bees gather large quantities of corn honey each year. I know that they did this year. Corn honey has such a peculiar quality that if one ever gets a yield, he will be apt to know it if he ever gets another, and I am quite sure I have had corn honey before."

Mr. Mahin says that "if Mr. Morris ever saw bees sucking at the joints of corn stalks....the corn was infested with chinch bugs, or some species of plant lice." Mr. Morris and his wife would most likely have noticed chinch bugs if they had been on the corn in such numbers as to produce the effect that he reports.

Mr. Mahin says, "that he has watched bees by the half hour gathering honey from clover, etc." If he has, and has read a corresponding amount of modern literature on bee-culture, he must know that honey gathered after plant lice is of an inferior quality. Mr. Morris and Mr. Root both testify that the above mentioned corn honey was a fine article. And yet, again, Mr. Mahin says, "that if bees can work on corn, as we believe they can, they would break the skin of grapes, and we would have to acknowledge that we were liable to the grape growers for the damage to their crops, which we have claimed was done by birds and wasps, etc."

Mr. Mahin has based his hypercriticism on a misconception. Did I not show that our choice fruits, etc., all came by cutting, pruning and uprooting of the plants, and also that white clover thrived best where it was most severely pruned? He should know that plants and fruit are subject to a law of growth, and they may be wounded to a certain extent without producing any perceptible injury.

Growth is continually laying off old conditions and building on new, changing acid to nectar, healing wounds, supplying waste, increasing dimensions, changing form, etc., and yet the health of the plant remains.

If Mr. Mahin will experiment one-half an hour in June and July, he will find that fruit may be pricked with a fine needle through the skin, (if done carefully), and the fruit remain healthy.

Orion, Wis., May 4, 1883.

☞ The Central Kansas Bee-Keepers' Association will meet at Manhattan, Kansas, on June 30, 1883.

THOS. BASSLER, *Sec.*

SELECTIONS FROM OUR LETTER BOX

White Clover Bloom.

The boom is here on white clover. The ground is literally covered with bloom. The bees are busy from morning till night. The battle opened this day week, and the hives are now full of honey, and the bees are working in the boxes. It is the finest flow I ever saw. I. H. SHIMER.

Hillsboro, Ill., June 7, 1883.

Good Prospect for Honey in New York.

My 30 colonies wintered without loss, but I lost 2 by spring dwindling. They are now in good condition for the honey harvest, for which the prospect is good.

CHARLIE W. BRADISH.

Glendale, N. Y., June 10, 1883.

Discussion on the Best Frame.

I have had some letters concerning my article on page 263; they speak of it as a challenge to discuss the frame subject. I ask all to read the article once more. Generally discussion soon merges into contention; and then long articles are written on both sides, to show that what one asserted is ture or false, when, whether true or false, is of no consequence; for instance, of what use is it to know if they have got the Langstroth frame ¼ inch too large, to a sensible man that uses a sensible frame. J. W. Porter's style, on page 288, is what we want.

E. B. SOUTHWICK.

Mendon, Mich., June 8, 1883.

Not at all Discouraged.

I put 112 colonies of bees in the cellar last fall, and took out 108, all in good condition. The spring has been cold and windy. The bees consumed more honey this spring, than during all the winter. I never lose any bees unless I was to blame for not having them in proper condition for winter. I can manage 300 colonies alone, with some cheap help to make hives and boxes, and to assist in swarming time. CHAS. FOLLETT.

Osage, Iowa, June 8, 1883.

Mock Orange for Honey.

Bees, in this vicinity, are swarming, very lively. I have had 9 swarms; one colony having given 3 swarms, viz.: May 26, June 1, and June 4. Another one, an Italian, has swarmed twice. My bees have stored no honey in the surplus boxes yet, but I expect to receive some soon, as the Alsike, white clover and locust are in bloom. The ants are very troublesome, making their nests in the upper story, around the surplus boxes, and running into the lower story when I open the hives, irritating the bees so that it is impossible to work with them. Basswood, which commences to bloom about July 1, is very full of bloom, this year. I enclose a flower and leaf for name. It is an ornamental shrub commencing to bloom about May 25, and lasting from 4 to 5 weeks, during which time it is entirely covered with bees. The leaves are almost hid by flowers. F. A. BOHL.

Summum, Ill., June 4, 1883.

[It is mock orange (*Philadelphus coronaria*); an exotic shrub, very commonly cultivated.—T. J. BURRILL.]

Swarming and Storing Honey in Ark.

I started the spring with 30 colonies; and have already taken over 2,000 pounds of extracted and 60 pounds of comb honey. Had it not been for the recent cold weather and the last few days of rain, I should have done much better. I have an increase of 15 good strong swarms. I would not be without the BEE JOURNAL for any price. I shall work a large number of colonies, another season. R. J. ADAMS.

Lakeport, Ark., June 5, 1883.

Long, Cold Spring Weather.

We have had a long, cold winter; and even since the spring quarter has appeared, we have had only sometimes a day which we rejoice to see, as a summer day, but the day following, and for several days, the old cold gloom again. One day in May, it commenced to rain, then turned to snow, and snowed the whole afternoon; however, at present, and for some days past, it appears like settled summer weather, and plum trees are in full bloom. There is an abundance of dandelion bloom, apple trees also are coming in nicely, and I hope we shall have a good season yet.

EDWARD MOORE.

Barrie, Ont., June 5, 1883.

National Convention.

Providence permitting, I shall go to the National Convention at Toronto, if the time is made to suit. For my own part, and I believe the majority of Southern bee-keepers, would prefer the last of September, as the most suitable time for holding the meeting, or not later than the 10th of October. The reason I prefer September is, there are more opportunities then offered for the purchase of "excursion tickets" to the North. I hope the committee of arrangements will select the time at as early a day as possible, so as to give bee-keepers ample time to effect all necessary arrangeements to go. J. P. H. BROWN.

Augusta, Ga., June 7, 1883.

Too Much Rain.

We have had rain, rain, rain, for the past two weeks, till everything is flooded with water. It became warm about May 25, but since then it has been so wet that the bees could do little or nothing. I am feeding my bees to keep them from starving. White clover promises well, and with good weather I hope the bees will soon get a living. My best colony gave a swarm on the 9th, owing to extra care, as I wished to get queen-cells produced by natural swarming as early as possible for queen-rearing.

G. M. DOOLITTLE.

Borodino, N. Y., June 12, 1883.

Good Outlook for Honey.

I put into winter quarters 45 good strong colonies, and 44 came out. My bees are in fine condition, and are booming, giving from one to five swarms every day. My section boxes are almost ready to take off. White clover is abundant, and the outlook is good. WM. TAYLOR.

Sinclair, Ill., June 11, 1883.

Wonderful Honey Plant.

The winter before last I procured a small package of sweet clover (*melilot*) seed, and sowed about 6 square rods in March, 1882, for a test. It grew last year, and sent its roots well in the ground. The past spring it shot up from the roots quite early, and, although from the first week in April to the present time, a good rain has not fallen on it, it put on a wonderful growth, and much of it is 6 feet high. It began to bloom about the middle of May, and is now a perfect mass of flowers, swarming with bees. I do not know how long it will last, but it certainly is one of the finest honey plants I ever saw. I think an acre of it would supply a large apiary. It is certainly worth trying in Texas, as it seems to resist the effects of dry weather so well. The spring has not been a favorable one for bees; but little swarming; doing well now, however. W. P. HANCOCK.

Salado, Texas, June 7, 1883.

Perpetual Bloom.

On April 1, 1883, I sold off what bees I had in Southern Nebraska, and I made up my mind to find a milder climate for myself, and also a place that my bees would not have to remain housed for from 5 to 6 months in the year. Here, near Trankeyone, we are locating an apiary of 200 colonies, some of which have, at this writing, 70 pounds of as fine honey as I have ever saw. The honey flow has every appearance of being good for 6 to 7 weeks yet. This is a land of almost perpetual bloom, as I am told by the oldest inhabitants, the climate being so mild that it scarcely ever freezes, and at the same time never becomes extremely hot; it is rarely above 70° Fahr. All kinds of fruit grow to perfection here. Apple, pear, peach, apricot, plum, cherry, grapes, oranges, lemons, prunes, figs and almonds, and small fruits, such as currants, raspberries, blackberries, etc. The wheat and barley crop promises a big yield. Trankeyone is a signal station on the coast range, in Southern California. JOSEPH SAYLER.

Santa Barbara Co., Cal., June 1,1883.

Bees Doing Lively Work.

We have had a very cold, wet spring here; but, in spite of the cold and wet, my bees are doing finely. I had the largest natural swarm, to-day, that I ever saw. I could hardly get them into a one-story simplicity hive. They have been storing honey from the willow. Basswood will not bloom till late; the bees of this locality are nearly all black. CHAS. HARROLD.

Onawa, Iowa, June 3, 1883.

Sweet Clover.

I enclose a part of a plant; will you give the name, and also please let me know if it is a honey plant? Bees seem to like it very well. It comes early in the spring, and grows about 3½ or 4 feet high, when the bloom comes. A great many limbs or sprouts come from the same root. It blooms the second year from seed.

L. R. WILLIAMS.

Paris, Texas, May 28, 1883.

[It is *melilotus alba*, or sweet clover, and is an excellent honey plant.—ED.]

Bees in Louisiana.

Bees, in this locality, are doing poorly, owing to the late spring and cold rains. Most of us have finished dividing, and are now waiting for a little sunshine, so that we may commence extracting. In this parish are about 2,500 colonies of bees, which are contained in about 15 different apiaries; all of which are run exclusively for extracted honey. Of course, scattered all through the country, are a few hives of bees, kept by the farmers' wives for their own use; these I did not count. I should like to know whether it is infringing on a patent to repair a patented article when it is broken? Please tell us something about Florida, Colorado and New Mexico through the columns of your valuable paper, for we Louisianians are tired of being flooded every spring, and are thinking seriously of emigrating *en masse*. T. M. HINES.

Point Coupee, La., June 4, 1884.

[Of course you can repair, or do anything you like with a patented article, after you have purchased it, except to make others like it. Our correspondent will find considerable in the BEE JOURNAL about the localities named, especially in relation to their adaptability for progressive bee-keeping.—ED.]

Magnificent Flow of Honey.

My bees have gone crazy on the honey question. I never saw such a flow of honey before.

JOSEPH E. SHAVER.

North River, Va., June 8, 1883.

Basswood Promises Well.

Please find enclosed a leaf that I would like to know the name of, and its importance as a honey producer. I only know of a little of it along the roadside, and it is alive with bees from morning till night; blooming at the time it does, between fruit tree bloom and basswood, it might be valuable for bees if it has no objectionable qualities to over-balance the good. My bees are strong; have been starting queen-cells, but a scarcity of honey and unfavorable weather caused them to destroy the cells. There is very little white clover here, and I expect I will have to feed some between now and basswood bloom, which promises to be good. Almost every one seems to be giving their preferences in regard to a standard frame, and all seem perfectly willing to adopt a standard, provided they adopt their preference. I think a compromise between a deep and shallow frame would be the best to unite on. I think it would be easier to unite, if the advocates of both deep and shallow frames would give a little, and I would endorse the frame recommended by Mr. P. P. N. E. Pellissier, on page 240, 10 inches deep by 15 inches long, inside measure. I am not using that size, but would be willing to adopt it. L. G. PURVIS.

Oregon, Mo., May 28, 1883.

[The leaf is not recognized. It is hard to determine plants from the leaf alone. Send part of the stem and especially the flower.—ED.]

Excellent Prospects for Honey.

I put into winter quarters 46 colonies, and 43 came out in fair condition; but I have lost, up to date, 5 more, leaving 38 now, all but 5 are ready to go into sections. I had hard work to keep them up, but I am satisfied to have them in this condition, after such a severe spring. I expect a good honey yield; white clover has commenced to yield honey, and there is as good a stand of it as I have ever seen. Our bees did not get enough, up to date, to keep breeding; I had to feed them largely, but hope now it is all right. I will report my experiments on wintering before fall.

A. WICHERTS.

Mattison, Ill., June 8, 1883.

Mountain Maple for Honey.

Will you please name, in the BEE JOURNAL, the enclosed plant. It grows on a tree something like the maple, and the roaring of the bees upon it to-day, attracted my attention. Fruit bloom is just done, and and if this is a good honey plant, as the working of the bees seems to indicate, it may be made to fill an important gap in the honey flow. I could not find another tree like the one from which I picked these leaves and flower. JAMES MCNEILL.

Hudson, N. Y., May 29, 1883.

[This is the mountain maple (*Acer spicatum*), a small native tree, widely dispersed through the heavily-wooded portions of the United States and Canada.—T. J. BURRILL.]

Backwardness of the Season.

The cold and backward spring has been pretty hard on the weak colonies of bees in this section, but strong colonies are booming. Geo. C. Green, of Factoryville, 1½ miles from here, had a large swarm about two weeks ago. He winters his bees in chaff hives; has some 30 colonies, and lost none. I have 8 colonies in plain Simplicity hives; 6 of them I packed with chaff cushions, and the other 2 I left to themselves, as they were weak ones, and I thought it was not worth while to bother with them. Did they live through the long cold winter? Yes sir; and came out just as well as the rest, having quite as large a proportion of their number ready for business as the others had. Why "this was thus," I cannot say unless, as the old gentleman remarked at the convention the other day, "It was just their contrary way." I wish you, Mr. Editor, would stir up those who advertise queens to sell, etc., to be a little more prompt in filling orders, or say plainly that they cannot immediately do as they advertise. Sometimes those who call themselves "square men," get a bad reputation by not being prompt. I ordered some queens some two weeks ago from a breeder who wrote me that he could send them on five days notice, but not a queen is here yet, although a letter will reach him in less than two days. I ordered more, from another breeder in the South, who claims, in his circular, to be able to fill orders in April, but not a queen do I get. In his acknowledgement of my order, he said it was cold there, and he was afraid they would die in the mails. That was three weeks ago. The mercury now stands at 85° to 88° in the shade, and he is only two days and half away. Are they all alike? I think not; but, from the little dealings I have had with some of them, I fear a majority belong to the three-handed army; that is, they have a right hand, a left hand, and a little behind-hand.

"CONNOISSEUR."

La Plume, Pa., June 5, 1883.

[The weather, this spring, has been such, not only in the North, but also in the South, that queens could not be reared and fertilized, much less shipped to fill orders. Our correspondent should remember that the circulars were gotten out in the winter, and no one could then foresee the terribly backwardness of the spring. Beeders calculated on the *usual* weather, but have been treated to some very *unusual*, this spring. All must exercise patience, eat a little more honey, and keep sweet-tempered.—ED.]

Toads—A Dangerous Bee Trap.

A few evenings since I went out to my apiary, and in front of the entrance to one hive I discovered a large toad. I watched him a few moments, and saw him catch bees as they ventured out on the alighting board. The toad would twist his mouth and turn from one side to another after swallowing a bee. I caught the toad and made an investigation. First cutting off his head, I examined the inside of the mouth, where was found several stingers in the jaw and roots of the tongue, where the bees had stung him when he closed his mouth upon them. I then opened the body and pressed upon the stomach, when nine nice Italian bees came out, lifeless. Others remained in the stomach, enough, I think, to have made the number 18 or 20. In answer to the question, "Will toads catch bees?" I can certainly answer, *they will*.

W. A. SHEWMAN.

Randolph, N. Y., June 9, 1883.

Bringing in the Golden Nectar.

I think I can say that I am "out of the woods" for this season, and will report, SUCCESS. I put into winter quarters 68 colonies, and never had them do better, until I gave them a flight late in February. I put them on their summer stands, in the first days of April, when I had lost 2 colonies. There was ten times as many dead bees on the cellar floor, on the first day of April, as there was on the first of March. I should like to have a reason for this, as they were kept as nearly as possible in the same condition through March as though the three preceding months. I have lost 3 colonies by dwindling, since the first of April, leaving 63 colonies in good condition; some of them very strong, hanging out, and giving strong indications of swarming. Mr. Layer, of Gilman, reports a fine swarm on the 23d of May. White clover is beginning to bloom, and for the last two days, they are working lively, bringing in the golden nectar, and their busy hum, to me, is sweet music. The more I am with the pets, the better I understand their language, for a language they have, most certainly, and it is well to understand and heed their words, or they may use something sharper.

REUBEN HAVENS.

Onarga, Ill., June 4, 1883.

What and How.

ANSWERS BY

James Heddon, Dowagiac, Mich.

☞ Will my friends please send their questions to the Editor of the JOURNAL, and not to me; they will be answered just as promptly. I now have a short-hand reporter who can take down my answers as fast as I can think them, which enables me to "talk back" with great satifaction, so send along your questions, but to Mr. Newman and not to me, please.

Queen Rearing.

Will Mr. Heddon give us his opinion of Mr. Alley's book, "New Method of Queen Rearing?" I have seen the same method of obtaining queen-cells practiced three years ago, in a large apiary, in a neighboring county.

C. W. GREEN.

New Orleans, La., June 7, 1883.

ANSWER.—I regret very much that I am unable to give my opinion upon Mr. Alley's "New Method of Queen-Rearing." Mr. Alley kindly sent me a copy, asking for my opinion, but I have been too busy to read it. I must fill my engagements and answer business letters, and this takes all of my time, and overtaxes me at that. I did read Mr. House's chapter on "Comb honey production," and also Mr. Locke's on the "Races of bees," therein contained. I disagree entirely with the tenets of both these chapters.

Drum Box and After-Swarms.

I would like to have Mr. Heddon answer these questions:

1. How does he prevent after-swarming?

2. Explain his drum box; is it in any wise different from a common box made to fit the top of the box hive he is transferring?

3. I have had 8 swarms from 3 colonies already. Bees have been storing surplus since April 1.

GEO. E. LYTLE.

Flat Bayou, Ark., May 28, 1883.

ANSWERS.—1. We very rarely have any attempt at after-swarming. If such are cast, we hive the after-swarm in a hive of comb foundation, and put it by the side of the old box. When the 21 days have passed, we then drive the bees in the old box into the hive with the after-swarm, and, at the same time, all three can be put together if you were driving on the non-increasing plan.

2. My drum box is simply a box of *about* the size of the hive to be drummed, but I think it would be an improvement, one I thought of 7 or 8 years ago, but have never made, to have a drum box contain numerous thin light division-boards, to enable the bees to readily ascend from all parts of the old hive.

Antiquated Management.

Will Mr. Heddon kindly answer the following questions through the AMERICAN BEE JOURNAL, for a friend:

1. If a man is doing all his own work, can he manage more bees for comb honey production, or for extracted honey?

2. Which way can he produce the greatest number of pounds, by using sections or extracting?

3. Can comb honey be shipped safely to market in the Langstroth frame, and would it find ready sale?

4. Would there be any market for comb honey in 10 or 20 pound boxes, such as were used 20 or 25 years ago?

5. I write this for the benefit of a friend. The questions being fully settled in my mind, and he being willing to abide by your answer.

G. C. VAUGHT.

Greenville, Miss.

ANSWERS.—1. We must understand that less colonies are required to gather the honey of a given area, when they are working for extracted honey than when working for comb honey. With proper fixtures in both cases, there is not much difference, if any, in the amount of labor required.

2. If he is getting extracted honey for sauce, and takes out a ripe article, he will get but little more extracted then comb honey, provided he thoroughly understands the law governing the production of comb honey.

3. To this question I answer No. The smaller the frame or sections honey is put up in, the safer it will be during transit. The full-sized Langstroth frame would be unsafe, besides there are hundreds of other objections against using it. It would not find ready sale in packages of that size.

4. Occasionally some odd genius might demand it in that shape, but as a rule there would be no market for it. The honey would have to sell at several cents per pound lower.

5. I hardly thought any reader of the AMERICAN BEE JOURNAL would be apt to ask such questions. The small sections are not only more salable at the present time, but the most transportable packages, and the most economical, labor and prices both considered.

Fertile Workers, etc.

The season is from two to three weeks late here, but we escaped the snow storm of May 21, that was so destructive through Ohio and further South. We also have had but little frost, and fruit propects are good for apples and cherries, and all kinds of small fruit; clover has wintered well, and has an enormous growth for this date; wheat promises to be above the average through this section.

1. How soon, after a colony becomes queenless, will fertile workers make their appearance?

2. Cannot queens be induced to lay to their utmost capacity in a single season, and thus become worthless after, by removing and replacing combs; the queen being in a strong colony?

3. What objection would there be to crossing the Holy Land bees with the pure Italians? Are they as irritable as other hybrid bees?

S. J. YOUNGMAN.

Cato, Mich., June 7, 1883.

ANSWERS.—1. There is no definite time. I have known them to appear in a few days after becoming queenless; at other times, several weeks after.

2. I have found that queens can be stimulated to lay such an amount of eggs in one or two seasons that they seem to have exhausted their fertility.

3. The main objection to crossing the Holy Land bees with Italians, is that they have not the valuable qualities possessed by the Italians, which every comb honey producer so

much needs, but the brown Germans have, and this is why the very best honey-gatherers can be procured by judicious crossings of leather-colored Italian and brown German bees. There is no need of losing any amiability in such crossing as the one last referred to. It is the simplest and easiest thing in the world to increase it.

The Holy Land bees have two traits of character, which must forever keep them from the apiaries of wise honey-producers. First, they are terribly irascible; secondly, they do not ripen their honey properly before sealing it, which causes it to press against the capping and ooze out. I have never had them in my apiary, I am happy to affirm; but good reliable parties, who have tested them thoroughly, furnish me proof of the above statements.

The brown German bee excells any bee in the world, in the much desirable point of building white comb, and doing it readily and rapidly; also in ascending to the upper story early in the season, and in not crowding the brood-chamber with honey. These valuable traits no wise honey producer will ignore. Another valuable point about them is, they are not nearly as much inclined to swarm as the yellow races of bees.

Transferring.

I have been transferring bees from American hives into others, but have not yet finished. Would you advise me to finish now? Please answer through the BEE JOURNAL and oblige. SILAS REMINGTON.

Lowell, Mich.

ANSWER.—We practice transferring either on the old system or the new, all through the season, when convenient, and see no reason why you should not finish the job at once.

Separators with Broad Frames.

Several correspondents have asked me if I considered it advisable to use separators with broad frames. I will reply that I do. When I run 34 broad frame supers, I tried omitting the separators. I find that while the "case" seems not to need separators to get reasonably straight combs, the broad frames are almost a total failure without them.

Bees are just beginning to swarm and store in cases here. The prospects are *good*. "After clouds, sunshine." We are now transferring several colonies on the new plan, which the students think "the boss."

Special Notices.

Examine the Date following your name on the wrapper label of this paper; it indicates the end of the month to which you have paid your subscription on the BEE JOURNAL.

For safety, when sending money to this office get either a post office or express money order, a bank draft on New York or Chicago, or register the letter. Postage stamps of any kind may be sent for amounts less than one dollar. Local checks are subject to a discount of 25 cents at Chicago banks. American Express money orders for $5, or less, can be obtained for 5 cents.

We wish to impress upon every one the necessity of being very specific, and carefully to state what they desire for the money sent. Also, if they live near one post office, and get their mail at another, be sure to give us the address we already have on our books.

Our Premiums for Clubs.

Any one sending us a club of **two** subscribers for 1 year, for the Weekly, with **$4,** will be entitled to a copy of Bees and Honey, in cloth, postpaid.

For **three** subscribers, with **$6,** we will send Cook's Manual, in paper, Emerson's Binder for the Weekly, or Apiary Register for 50 colonies.

For **four** subscribers, with **$8,** we will send Cook's Manual in cloth, or Apiary Register for 100 colonies.

For **five** subscribers, with **$10,** we will send the Apiary Register for 200 colonies, Quinby's New Bee-Keeping, Root's A B C of Bee Culture, or an extra copy of the Weekly BEE JOURNAL for one year.

To get any of the above premiums for the Monthly BEE JOURNAL send double the number of subscribers, and the same amount of money.

Bee Pasturage a Necessity.—We have just issued a new pamphlet giving our views on this important subject, with suggestions what to plant, and when and how. It is illustrated with 26 engravings, and will be sent postpaid to any address for 10 cents.

☞ Do not send coins in a letter. It is dangerous and increases the postage unnecessarily. Always send postage stamps, for fractions of a dollar, and, if you can get them—*one-cent* stamps; if not, any denomination of postage stamps will do.

☞ Constitutions and By-Laws for local Associations $2.00 per 100. The name of the Association printed in the blanks for 50 cents extra.

Honey as Food and Medicine.

A new edition, revised and enlarged, the new pages being devoted to *new* Recipes for Honey Medicines, all kinds of cooking in which honey is used, and healthful and pleasant beverages.

We have put the price of them low to encourage bee-keepers to scatter them far and wide. Single copy 6 cents, postpaid; per dozen, 50 cents; per hundred, $4.00. On orders of 100 or more, we print, if desired, on the cover-page, "Presented by," etc., (giving the name and address of the bee-keeper who scatters them). This alone will pay him for all his trouble and expense—enabling him to dispose of his honey at home, at a good profit.

The Apiary Register.

All who intend to be systematic in their work in the apiary, should get a copy and commence to use it.

For 50 colonies (120 pages).....$1 00
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The larger ones can be used for a few colonies, give room for an increase of numbers, and still keep the record all together in one book, and are therefore the most desirable ones.

Special Notice.—We will, hereafter, supply the Weekly BEE JOURNAL for one year, and the seventh edition of Prof. Cook's Manual of the Apiary, bound in fine cloth, for **$2.75,** or the Monthly Bee Journal, and the Manual in cloth for $1.75. As this offer will soon be withdrawn, those who desire it should send for the book *at once.*

Sample Copies of the AMERICAN BEE JOURNAL will be sent *free* to any person. Any one intending to get up a club can have sample copies sent to the persons they desire to interview, by sending the names to this office.

To Europe and Return for 30 Cents.

If you can't afford to pay $22 for one of W. H. Brearley's round trip excursion tickets "From Detroit to the Sea," with which you could leave Detroit June 27th, July 11th or July 25th, for a 2,200 mile pleasure tour to the White Mts. and Sea Shore, the "next" best thing would be to send ten 3 cent stamps to W. H. Brearley, of the Detroit (Mich.) "Evening News," for a copy of his new 68-page illustrated excursion guide book. It also contains particulars of 3 cheap excursions "From Detroit across the Sea" to Liverpool. The book is graphic in its descriptions, and affords for thirty cents an excellent substitute for an excursion to Europe, with the advantage that calm weather and exemption from sea sickness may be relied upon. One of these guide books has been received at the office of this paper, where it may be examined by any one interested.